

The use of brain organoids to investigate neural development and disease.

Journal: Nat Rev Neurosci

Publication Year: 2017

Authors: Elizabeth Di Lullo, Arnold R Kriegstein

PubMed link: 28878372

Funding Grants: Center of Excellence for Stem Cell Genomics - Stanford

Public Summary:

Scientific Abstract:

Understanding the development and dysfunction of the human brain is a major goal of neurobiology. Much of our current understanding of human brain development has been derived from the examination of post-mortem and pathological specimens, bolstered by observations of developing non-human primates and experimental studies focused largely on mouse models. However, these tissue specimens and model systems cannot fully capture the unique and dynamic features of human brain development. Recent advances in stem cell technologies that enable the generation of human brain organoids from pluripotent stem cells (PSCs) promise to profoundly change our understanding of the development of the human brain and enable a detailed study of the pathogenesis of inherited and acquired brain diseases.

Source URL: <https://www.cirm.ca.gov/about-cirm/publications/use-brain-organoids-investigate-neural-development-and-disease>